Remarks

Claims 1-34 and 36-37 have been amended herein. Claims 38-42 have been added. Thus claims 1-42 are pending.

No new matter has been added by this amendment, nor have any claims been narrowed. The claims were amended solely for the purpose of complying with U.S. claiming conventions.

A new sequence listing is submitted. The sequence listing incorporates the human nucleic acid coding sequence shown in FIG. 7, as SEQ ID NO. 39.

Claims 1, 2, 4, 9-11, 17, 19-22, 28-33, and 36-37 were amended to correct the antecedent basis.

Claims 1-4 and 19-21 were amended to introduce the term "isolated." Support can be found on page 4, lines 12-20.

Claims 2, 4, 8-11, 13-15, 17, 20, and 23-25 and were amended to change the phrase "according to" to "of" in accordance with U.S. claiming conventions.

Claims 3, 4, and 21 were amended to clarify the claim. Support can be found on page 4, lines 38-30.

Claims 5, 6, 12, 17, 18, 26, and 34 were amended to change the "use" claims into method claims. Support can be found as follows:

Claim 5: page 6, line 28-page 7, line 3 and page 8, lines 5-6

Claim 6: page 6, line 28-page 7, line 3

Claim 12: page 8, lines 4-6

Claim 17: page 9, lines 1-2

Claim 18: page 8, lines 19-31

Claim 26: page 8, lines 4-6

Claim 34: page 10, lines 26-29 and page 14, lines 16-27

Claim 7 was amended to correct the spelling of "epitope."

Claims 7 and 22 were amended and to clarify the claims. In addition, claim 22 now depends from claim 7. Support can be found in the specification on page 5, lines 19-23, and in FIG. 7.

Claim 10 was amended to clarify the claim. Support can be found in the specification on page 8, line 1.

Claim 13 was amended to correct the dependency and to clarify the claim. Support can be found in the specification on page 8, lines 12-17.

Claims 15, 16, and 19 were amended to place the verb into an active form.

Claim 24 was amended to clarify the claim. Support can be found in the specification on page 10, lines 1-3.

Claim 27 was amended to clarify the claim. Support can be found in the specification on page 10, lines 5-7 and page 14, line 29 through page 15, line 25.

Claims 28-32 and 36-37 were amended to remove redundant claim language.

Claim 34 was amended to clarify the claim, and to depend from claim 33. Support can be found in the specification on page 10, lines 26-29 and on page 14, lines 16-26.

Claims 36 and 37 were amended to correct the lettering of the subclaims.

Support for new claims 38-40 can be found in the specification on page 5, lines 19-23, and in FIG. 7.

Support for new claim 41 can be found in the specification on page 7, lines 5-9.

Support for new claim 42 can be found in the specification on page 9, lines 19-23.

Respectfully submitted,

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Marked-up Version of Amended Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)

1. (Amended) [A] An isolated nucleic acid molecule which encodes a tissue repair protein and comprises a nucleotide sequence which hybridises to [the] a nucleic acid sequence shown in [of] SEQ ID NO: 1 under high stringency conditions.

2. (Amended) [A] The isolated nucleic acid molecule [according to] of Claim 1 wherein the stringent conditions are 1 x SSC, 0.1% SDS at 65°C.

3. (Amended) [A] The isolated nucleic acid molecule [according to either prededing claim which is] of claim 1 or claim 2 wherein the nucleic acid molecule is from a mammal [mammalian in origin]

4. (Amended) [A] The isolated nucleic acid molecule [according to] of Claim 3 [which is derived from] wherein the mammal is a human.

5. (Amended) [Use of the nucleic acid of SEQ ID NO:1, fragments or variants thereof, in determining] A method for diagnosing orofacial clefting in a patient, comprising detecting expression of [mRNA] a nucleic acid sequence shown in SEQ ID NO:1, or fragments or variants of the nucleic acid sequence shown in SEQ ID NO:1, in selected target tissues(s) [for diagnosing orofacial clefting].

6. (Amended) [Use of the nucleic acid of SEQ ID NO:1, fragments or derivatives thereof, in determining the presence of DNA mutations] A method for diagnosing orofacial clefting in patients suffering from, or suspected to be suffering from orofacial clefting comprising detecting a mutation in a nucleic acid sequence shown in SEQ ID NO:1, or fragments or variants of the nucleic acid sequence shown in SEQ ID NO:1.

7. (Amended) A polypeptide or a protein comprising an epitope for an antibody, or a protein modified by one or more amino acid modifications and comprising an epitope, or a [fragment] modified or unmodified fragment comprising an [eptitope] epitope for a tissue repair

protein encoded by [SEQ ID NO:2] a nucleic acid sequence having at least 75% identity to a nucleic acid sequence shown in SEQ ID NO:39.

8. (Twice Amended) A delivery vehicle comprising the nucleic acid molecule [according to] of Claim 1 and/or the polypeptide [according to] of Claim 7, which [optionally] is in the form of a suspension.

9. (Amended) [A] The delivery vehicle [according to] of Claim 8, wherein the delivery vehicle [which] is adapted to deliver [said] the nucleic acid molecule or polypeptide to a selected tissue.

10. (Amended) [Antibodies] An antibody raised against the polypeptide [according to] of Claim 7.

11. (Amended) [Antibodies according to] The antibody of Claim 10 [where] wherein the antibody is [are] a monoclonal antibody.

12. (Amended) [Use of antibodies, fragments or derivatives thereof according to Claim 7 in the diagnosis of orofacial clefting] A method for diagnosing orofacial clefting, comprising detecting expression of a protein recognized by the antibody of claim 10.

13. (Amended) A method for detecting the [antibodies according to Claim 7] antibody of claim 10 in a sample, comprising:

labeling a ligand comprising a protein or protein fragment of SEQ ID NO:2 present in the sample;

contacting [with] the sample with the antibody of claim 10, wherein the antibody is immobilised [antibody against a protein or protein fragment of SEQ ID NO:2, which] which results in binding of the immobilised antibody [has bound thereto] to the [a] labelled ligand [comprising a protein or protein fragment of SEQ ID NO:2,]; and

detecting the labelled ligand bound to the immobilised antibody [or labelled ligand bound to antibody] in the sample.

14. (Twice Amended) A method for the treatment of orofacial clefting, comprising administering to a patient suffering from orofacial clefting the nucleic acid molecule [according to] of Claim 1 and/or polypeptide of Claim 7.

15. (Twice Amended) A method for [the treatment of] treating wounds and/or promoting tissue repair, comprising administering to a patient suffering from a wound and/or tissue damage the nucleic acid molecule [according to] of Claim 1 and/or the polypeptide of Claim 7.

16. (Twice Amended) A method of [treatment of] treating wounds and/or promoting tissue repair, comprising administering to a patient suffering from a wound and/or tissue damage a composition comprising the delivery vehicle of Claim 8.

17. (Twice Amended) A pharmaceutical composition comprising the nucleic acid [according to] of Claim 1 and/or [a] the protein [according to] of Claim 7 [for use as a pharmaceutical].

18. (Twice Amended) A method for treating [Use of the nucleic acid according to Claim 1 and/or the protein according to Claim 7 for the manufacture of a medicament for the treatment of] orofacial clefting and/or wound healing and/or tissue repair comprising administering to a patient the nucleic acid of Claim 1 and/or the protein of Claim 7.

19. (Amended) [A] An isolated nucleic acid molecule [which encodes] encoding a tissue repair protein [and comprise] comprising a nucleotide sequence which hybridises to [the] a nucleic acid sequence shown in [of] SEQ ID NO:3 under high stringency conditions.

20. (Amended) [A] The isolated nucleic acid [according to] of Claim 19 wherein the stringent conditions are 1 x SSC, 0.1% SDS at 65°C.

21. (Twice Amended) [A] The isolated nucleic acid [according to] of Claim 19 [that is murine in origin] wherein the nucleic acid molecule is from a mouse.

22. (Amended) [A] The polypeptide or a protein of claim 7, [comprising an epitope for an antibody or a protein modified by one or more amino acid modifications and comprising an epitope, or a fragment modified or unmodified comprising an eptitope, for a tissue repair protein encoded by SEQ ID NO:4] wherein the nucleic acid sequence comprising at least 75% identity to the nucleic acid sequence shown in SEQ ID NO:39 comprises a nucleic acid sequence shown in SEQ ID NO:3, or a fragment thereof.

23. (Twice Amended) A delivery vehicle comprising the isolated nucleic acid molecule [according to] of Claim 20 and/or the polypeptide [according to] of Claim 22.

24. (Amended) [Antibodies] An antibody raised against the polypeptide [according to] of Claim 22.

25. (Amended) [Antibodies according to] The antibody of Claim 24 [where] wherein the antibody is [are] a monoclonal antibody.

26. (Twice Amended) [Use of antibodies according to Claims 24 in] A method for diagnosing or detecting orofacial clefting comprising detecting expression of a protein recognized by the antibody of claim 24.

27. (Amended) A method of producing a transgenic mammal comprising disrupting a gene, or the effective part [thereof,] of the gene, wherein the gene [encoding] encodes at least one tissue repair protein, and a resulting phenotype is a cleft palate in the transgenic mammal.

28. (Amended) [A] The method of [producing a transgenic mammal according to] Claim 27 wherein the transgenic mammal is a rodent.

29. (Twice Amended) [A] The method of [producing a transgenic mammal according to] Claim 28 wherein the [transgenic mammal] rodent is a mouse.

30. (Twice Amended) [A] The method of [producing the transgenic mammal according to] Claim 27 wherein the gene encoding the tissue repair protein is [the] a nucleic acid molecule comprising a nucleotide sequence which hybridizes to [the] a nucleic acid sequence shown in [of] SEQ ID NO: 3 under high stringency conditions.

31. (Amended) [A] The method of [producing a transgenic mammal according to] Claim 27 wherein the transgenic mammal is a human.

32. (Twice Amended) [A] The method of [producing a transgenic mammal according to] Claim 27 wherein the gene encoding the tissue repair protein is a nucleic acid molecule which encodes a tissue repair protein and comprises a nucleotide sequence which hybridizes to [the] a nucleic acid sequence shown in [of] SEQ ID NO: 1 under high stringency conditions.

33. (Amended) A reporter gene construct based on [the] a promoter region of a gene, or an effective part thereof encoded by SEQ ID NO:1, or a fragment or variant thereof.

34. (Amended) A method for [Use of a reporter gene construct based on the promoter region of a gene or effective part thereof, encoded by SEQ ID NO:1 in the] detection/screening [of] a pharmaceutical[s] and/or other compound[s], comprising:

contacting the pharmaceutical and/or other compound with the reporter gene construct of claim 33; and

determining a transcriptional response of the reporter gene to the pharmaceutical or other compound wherein the transcriptional response is an indicator of a [and their] potential teratogenic effect[s] of the pharmaceutical or other compound.

36. (Amended) An isolated nucleic acid encoding a tissue repair protein, the nucleic acid [may be] selected from the group consisting of:

(a) DNA [having the] comprising a nucleotide sequence [given herein as] shown in SEQ ID NO: 39[1 (which encodes the protein having the amino acid sequence given herein as SEQ ID NO:2), and which encodes a tissue repair protein];

[(f)] (b) nucleic acids which hybridize to DNA of (a) above [(e g.,] under stringent conditions[) and which encode a tissue repair protein]; and

[(g)] (c) nucleic acids which differ from the DNA of (a) or (b) above due to the degeneracy of the genetic code, and which encode a tissue repair protein encoded by [a] the DNA of (a) or (b) above.

37. (Amended) An isolated nucleic acid encoding a tissue repair protein, [the nucleic acid may be] selected from the group consisting of:

(a) DNA [having the] comprising a nucleotide sequence [given herein as] shown in SEQ ID NO:3 [(which encodes the protein having the amino acid sequence given herein as SEQ ID NO:4), and which encodes a tissue repair protein];

[(h)] (b) nucleic acids which hybridize to DNA of (a) above [(e.g.,] under stringent conditions[) and which encode a tissue repair protein]; and

[(i)] (c) nucleic acids which differ from the DNA of (a) or (b) above due to the degeneracy of the genetic code, and which encode a tissue repair protein encoded by [a] the DNA of (a) or (b) above.

38. (New) The isolated nucleic acid molecule of claim 1, wherein the nucleic acid has at least 75% identity to a nucleic acid sequence shown in SEQ ID NO:39.

39. (New) The isolated nucleic acid molecule of claim 38, wherein the nucleic acid has at least 75% identity to a nucleic acid sequence shown in SEQ ID NO:39.

40. (New) The isolated nucleic acid molecule of claim 38, wherein the nucleic acid has at least 95% identity to a nucleic acid sequence shown in SEQ ID NO:39.

41. (New) The polypeptide or protein of claim 7, wherein the nucleic acid sequence encodes a protein comprising an amino acid sequence shown in SEQ ID NO:2.

42. (New) The polypeptide or protein of claim 22, wherein the nucleic acid sequence encodes a protein comprising an amino acid sequence shown in SEQ ID NO:4.